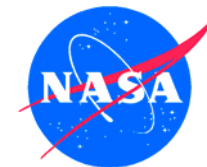


Net Gain for NetGain Technologies Using NASA Developments



TECHNOLOGY

NetGain Technologies, LLC is developing an electric motor/super-capacitor/battery system for hybrid vehicles. The super-capacitors were made available from NASA Glenn and the motor design has been improved to take full advantage of the capacitors benefits, while the next generation lithium-ion battery design is awaiting new battery materials for testing based on another NASA Glenn innovation of rod-coil polymers.

COMMERCIAL APPLICATION

Applications for this system of technologies are being approached on several fronts. NetGain Technologies, LLC is developing these improved motors for the electric vehicle industry as a separate business. They are also developing the motor/capacitor/battery system for hybrid electric vehicles. Designed now as a retrofit kit, the ultimate goal is to achieve sufficient energy density and efficiency to have the technology adopted as OEM equipment. A third potential use are both commercial and military applications as either stationary or mobile energy centers based on the relatively light weight and superior energy density of the capacitor/battery combination.



Above: Super-capacitors mounted in the electric dragster.

Below: George Hamstra, NetGain cofounder.



SOCIAL/ECONOMIC BENEFIT

NetGain's business has split in two and they doubled their employees/stakeholders involved with the new projects as these developments were progressing. In addition to the power system work described here, a spin-off company is focusing on racing and race performance power technology which was an initial element in the company's formation. Another economic aspect is a current internal development project on sophisticated coil-winding equipment which is being designed to manufacture both the super-capacitors and lithium-ion battery elements that will have broad industrial applications and positive employment implications when fully developed. Less air pollution is also a social benefit based on reduced fuel consumption.

NASA APPLICATIONS

The development of lighter weight, more energy dense power systems has many potential uses on NASA missions, both in payload and overhead applications. These robust systems are able to perform under some of the extreme temperature variations encountered in space exploration, for example as power drives for manned vehicles or autonomous robots, or as energy stations to power other exploration equipment.

Point of Contact:



nicc@battelle.org
Phone: 630/845-6500
2700 International Drive, Suite 201
West Chicago, Illinois 60185



ttp@grc.nasa.gov
Phone: 216/433-3484
Fax: 216/433-5531
21000 Brookpark Road
Cleveland, OH 44135